

CLAIMS

1. A process of preparing cells for cell therapy, comprising the steps of:

inducing Th cells that have a nonspecific antitumor activity; and

imparting antigen specificity to the Th cells.

2. The process for preparing cells for cell therapy according to claim 1, wherein the step of imparting antigen specificity to the Th cells is carried out by transducing a gene for a TCR that recognizes a cancer-associated antigen.

3. The process for preparing cells for cell therapy according to claim 1, wherein the step of imparting antigen specificity to the Th cells is carried out by transducing a gene for a class I-restricted TCR that recognizes a cancer-associated antigen.

4. The process for preparing cells for cell therapy according to claim 1, wherein the step of imparting antigen specificity to the Th cells is carried out by transducing a gene for a class II-restricted TCR that recognizes a cancer-associated antigen.

5. The process for preparing cells for cell therapy according to any of claims 2 to 4, wherein the cancer-associated antigen is selected from the group consisting of WT1, CEA, AFP, CA19-9, CA125, PSA, CA72-4,

SCC, MK-1, MUC-1, p53, HER2, G250, gp-100, MAGE, BAGE, SART, MART, MYCN, BCR-ABL, TRP, LAGE, GAGE, and NY-ESO1.

6. The process for preparing cells for cell therapy according to claim 1, wherein the step of inducing Th cells having a nonspecific antitumor activity is carried out by culturing a T cell-containing material in the presence of anti-CD3 antibody and IL-2.

7. The process for preparing cells for cell therapy according to any of claims 1 to 6, further comprising a step of purifying the Th cells to which antigen specificity has been imparted.

8. The process for preparing cells for cell therapy according to claim 7, wherein the step of purifying the Th cells to which antigen specificity has been imparted is carried out by using antibody-bearing magnetic beads.

9. A process of preparing cells for cell therapy, comprising the steps of:

inducing Th1 cells and Tc1 cells that have a nonspecific antitumor activity; and

imparting antigen specificity to the Th1 cells and Tc1 cells.

10. The process for preparing cells for cell therapy according to claim 9, wherein the step of imparting antigen specificity to the Th1 cells and Tc1

cells is carried out by transducing a gene for a TCR that recognizes a cancer-associated antigen.

11. The process for preparing cells for cell therapy according to claim 9, wherein the step of imparting antigen specificity to the Th1 cells and Tc1 cells is carried out by transducing a gene for a class I-restricted TCR that recognizes a cancer-associated antigen.

12. The process for preparing cells for cell therapy according to claim 9, wherein the step of imparting antigen specificity to the Th1 cells and Tc1 cells is carried out by transducing a gene for a class II-restricted TCR that recognizes a cancer-associated antigen.

13. The process for preparing cells for cell therapy according to any of claims 9 to 12, wherein the cancer-associated antigen is selected from the group consisting of WT1, CEA, AFP, CA19-9, CA125, PSA, CA72-4, SCC, MK-1, MUC-1, p53, HER2, G250, gp-100, MAGE, BAGE, SART, MART, MYCN, BCR-ABL, TRP, LAGE, GAGE, and NY-ESO1.

14. The process for preparing cells for cell therapy according to claim 9, wherein the step of inducing Th1 cells and Tc1 cells having a nonspecific antitumor activity is carried out by culturing a T cell-containing material in the presence of anti-CD3 antibody, IL-2, and IL-12.

15. The process for preparing cells for cell therapy according to any of claims 9 to 14, further comprising a step of separating the Th1 cells and Tc1 cells to which antigen specificity has been imparted.

16. The process for preparing cells for cell therapy according to claim 15, wherein the process of separating the Th1 cells and Tc1 cells to which antigen specificity has been imparted is carried out by using antibody-bearing magnetic beads.

17. The process for preparing cells for cell therapy according to claim 15 or 16, further comprising a step of mixing the separated Th1 cells and Tc1 cells in any given proportion.

18. Cells for cell therapy, that are produced by a process comprising the steps of:

inducing Th cells that have a nonspecific antitumor activity; and

imparting antigen specificity to the Th cells.

19. Cells for cell therapy, that are produced by a process comprising the steps of:

inducing Th1 cells and Tc1 cells that have a nonspecific antitumor activity; and

imparting antigen specificity to the Th1 cells and Tc1 cells.

20. A method for preventing or treating tumor, comprising the steps of:

isolating leukocytes from a patient;
inducing from the leukocytes Th cells that have a
nonspecific antitumor activity;
imparting antigen specificity to the Th cells; and
administering to the patient the Th cells to which
antigen specificity has been imparted.

21. A method for preventing or treating tumor,
comprising the steps of:

isolating leukocytes from a patient;
inducing from the leukocytes Th1 cells and Tc1 cells
that have a nonspecific antitumor activity;
imparting antigen specificity to the Th1 cells and
Tc1 cells; and
administering to the patient the Th1 cells and Tc1
cells to which antigen specificity has been imparted.